Permit No.: AK-004320-6

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4 (the "Act"),

Kennecott Greens Creek Mining Company
(Greens Creek Mine)

is authorized to discharge: 1) treated domestic wastewater through outfall 001 at latitude of 58° 07' 30" N and longitude of 134° 45' 15" W to a receiving water named Hawk Inlet, 2) treated mine and mill process wastewater through outfall 002 at latitude of 58° 07' 0" N and longitude of 134° 45' 30" W to Hawk Inlet, and 3) storm water in accordance with discharge point(s), effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit shall become effective November 16, 1998.

This permit and the authorization to discharge shall expire at midnight, November 17, 2003

Signed this 15th day of October, 1998.

/s/ Philip G. Millam
Director, Office of Water, Region 10
U.S. Environmental Protection Agency

TABLE OF CONTENTS

LIST OF TABLES:

I. EFFLUENT LIMITATIONS

A. During the effective period of this permit, the permittee is authorized to discharge to Hawk Inlet from outfalls 001 and 002, subject to the restrictions set forth herein. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams.

B. There shall be no discharge of floating solids, visible foam, or oily wastes which produce a sheen on the surface of the receiving water.

C. For both outfalls, the pH range shall not be less than 6.0 standard units (SU), nor greater than 9.0 SU.

D. Discharges from outfalls 001 and 002 shall meet the limitations as specified, respectively, in Tables 1 and 2 below. The permittee shall comply with these effluent limits at all times, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 1: Limitations for Outfall 001

EFFLUENT PARAMETER (Units)	EFFLUENT LIMITATION [1]		
	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
BOD_5 (mg/l)	30	45	--
TSS (mg/l)	30	45	--
Chlorine [2] (µg/l)	1.6	--	3.3
Fecal Coliform (#/100 ml)	7000 [3]	--	21500

NOTES for Table 1:

1. Limitations on daily discharge (see Definitions).
2. Chlorine shall be analyzed as total residual. The limits for chlorine fall below the Interim Minimum Level (ML) of 20 µg/l. This Interim ML shall be used as the compliance evaluation level for chlorine.
3. Average discharge shall be calculated as the geometric mean of all samples collected during the averaging period.

Table 2: Limitations for Outfall 002

EFFLUENT PARAMETER (Units)	EFFLUENT LIMITATION [1]	
	Average Monthly Limit	Maximum Daily Limit
Flow (mgd)	1.66	3.6
Cadmium (µg/l) [2]	50	100
Copper (µg/l) [2]	150	300
Lead (µg/l) [2]	300	600
Mercury (µg/l) [3]	1.0	2.0
Zinc (µg/l) [2]	500	1000
TSS (mg/l)	20	30

NOTES for Table 2:
1. Limitations on daily discharge (see Definitions).
2. These parameters shall be analyzed as total recoverable.
3. Mercury shall be analyzed as total.

II. BEST MANAGEMENT PRACTICES PLAN

A. **Purpose.** Through implementation of the Best Management Practices Plan (BMP) Plan the permittee shall prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal operations and ancillary activities.

B. **BMP Plan**. The permittee shall revise the existing BMP Plan and implement the BMP Plan to achieve the objectives and the specific requirements listed below. A copy of the revised BMP Plan shall be submitted to EPA and to the Alaska Department of Environmental Conservation (ADEC) within six months of the effective date of the permit.

C. **Objectives.** The permittee shall develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.

1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility shall be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.

2. Under the BMP Plan, and any Standard Operating Procedures (SOPs) included in the BMP Plan, the permittee shall ensure proper operation and maintenance of

water management and wastewater treatment systems. BMP Plan elements shall be developed in accordance with good engineering practices.

3. The permittee shall establish specific objectives for the control of pollutants by conducting the following evaluations.

   a. Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination shall include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

   b. Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the program should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

D. Requirements. The BMP Plan shall be consistent with the objectives in Part C. above and the general guidance contained in the publication entitled Guidance Manual for Developing Best Management Practices (EPA 833-B-93-004, October 1993) or any subsequent revisions to the guidance document. The BMP Plan shall include:

1. Plan Components. The BMP Plan shall include the following components:

   a. Statement of BMP policy. This statement must include a statement of management commitment to provide the necessary financial, staff, equipment and training resources to develop and implement the BMP plan on a continuing basis.

   b. Structure, functions, and procedures of the Best Management Practices Committee.

   c. Description of sources.

   d. Risk identification and assessment.

e. Specific best management practices (see below) and standard operating procedures to achieve the above objectives.

f. Reporting of BMP incidents. The reports shall include a description of the circumstances leading to the incident, corrective actions taken and recommended changes to operating and maintenance practices to prevent recurrence.

g. Materials compatibility.

h. Good housekeeping.

I. Inspections and records.

j. Preventative maintenance and repair.

k. Security.

l. Employee training.

m. Prior evaluation of any planned modifications to the facility to ensure that the requirements of the BMP plan are considered as part of the modifications.

n. Final constructed site plans, drawings and maps (including detailed storm water outfall/culvert configurations).

2. Review and Certification. The BMP Plan shall be reviewed and certified as follows:

a. Annual review by plant engineering staff and the plant manager.

b. Annual review and endorsement by the permittee's BMP Committee.

c. Certified statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement shall be certified by the dated signatures of each BMP Committee member. This statement shall be submitted to EPA on or before January 31st of each year of operation under this permit after the initial BMP submittal (the initial statement shall be submitted to EPA six months after submittal of the BMP Plan). Copies of the statement shall be sent to ADEC.

3. Specific Best Management Practices. Specific practices shall be developed to achieve the objectives of the Plan, including but not limited to:

a. Proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA) and the Alaska Solid Waste Management Regulations (18 AAC 60). Management practices required under RCRA regulations shall be referenced in the BMP Plan.

b. Proper management of materials in accordance with Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 112. The BMP Plan may incorporate any part of such plans into the BMP Plan by reference.

E. BMP Inspections. Inspections shall be included in the BMP Plan and implemented as follows:

1. Inspections required under the BMP Plan shall include routine inspections on areas susceptible to leaks, spills, and other identified problem areas and, at least twice per year, the permittee shall 1) identify areas impacted by storm water discharges, and 2) evaluate whether measures identified in the BMP Plan to reduce pollutant loadings generated by storm water discharges are adequately and properly implemented.

2. Based on the results of the inspections, the permittee shall initiate corrective measures within 30 days of such inspection or as soon as practicable under extenuating circumstances. The permittee shall notify EPA and ADEC of the extenuating circumstances within 15 days of the inspection. Any corrective measures shall be documented and be included in the BMP Plan.

3. The permittee shall prepare an annual report summarizing 1) the scope of the inspections, 2) personnel making the inspections, 3) the dates of the inspections, 4) corrective actions taken as a result of the inspections, 5) description of the quality and quantity of storm water discharged (see also Part III.D.), 6) construction activities during the year, and 7) BMP Plan modifications made during the year.

   The report shall be signed in accordance with Part V.E. of this permit and shall be submitted to EPA and ADEC with the certified statement required under D.2.c. above (submitted on or before January 31st of each year).

F. Documentation. The permittee shall maintain a copy of the BMP Plan at the facility and make it available to EPA and ADEC or an authorized representative upon request. All offices of the Permittee which are required to maintain a copy of the NPDES permit shall also maintain a copy of the BMP Plan.

G. BMP Plan Modification. The permittee shall amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The permittee shall also amend the BMP Plan, as appropriate, when plant operations covered by the BMP Plan change. Any such changes to the BMP Plan shall be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan shall be reviewed by the plant engineering staff and plant manager and shall be reported to EPA and ADEC in writing.

H. Modification for Ineffectiveness. At any time, if the BMP Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP Plan shall be subject to modification to incorporate revised BMP requirements.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Effluent Monitoring Requirements.

1. The permittee shall monitor all effluent as specified in Tables 3 and 4 below, subject to the other monitoring and reporting requirements set forth in this permit.

2. Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit. Test procedures selected must have method detection limits (MDLs) such that compliance with the permit limitations in Tables 1 and 2 can be demonstrated.

3. If the discharge concentration falls below the method detection limit (MDL), the permittee shall report the effluent concentration as "less than {numerical method detection limit}" on the DMR. Actual analytical results shall be reported on the DMR when the result are greater than the MDL. For averaging, samples below the MDL shall be assumed equal to zero. The permittee shall report the number of non-detects for the month in the "Comment Section" of the DMR.

4. All monitoring results shall be reported to a minimum of two significant figures.

Table 3: Monitoring for Outfall 001

EFFLUENT PARAMETER (units)	MONITORING REQUIREMENT	
	Sampling Frequency	Sample Type

Flow (gpd)	daily	measure or estimate
BOD_5 (mg/l)	weekly	grab
TSS (mg/l)	weekly	grab
Total Residual Chlorine (µg/l)	weekly	grab
Fecal Coliform Bacteria (#/100 ml)	weekly	grab
Temperature (^{0}C)	weekly	grab
pH (standard units)	weekly	grab

Table 4: Monitoring for Outfall 002

EFFLUENT PARAMETER (units)	MONITORING REQUIREMENT	
	Sampling Frequency [1]	Sample Type
Flow (mgd)	continuous	recorder
Cadmium (µg/l) [2]	weekly	24-hour composite
Copper (µg/l) [2]	weekly	24-hour composite
Lead (µg/l) [2]	weekly	24-hour composite
Mercury (µg/l) [3]	weekly	24-hour composite
Zinc (µg/l) [2]	weekly	24-hour composite
TSS (mg/l)	weekly	24-hour composite
pH (standard units) [4]	daily	grab
Total Cyanide (µg/l) [5]	weekly	grab
WET (TU_c [6])	semi-annually	24-hour composite
Turbidity (NTU)	continuous	recorder
Temperature (^{o}C)	daily	grab

NOTES for Table 4:

1. Weekly sampling shall occur on the same day of each week, unless the permittee can document that sampling could not be performed due to extreme conditions. In such cases, a detailed explanation of the reason sampling could not be performed shall be prepared and submitted with the Discharge Monitoring Report (DMR) for the month.
2. The permittee shall conduct analysis for total recoverable metals.
3. Mercury shall be analyzed as total.
4. The permittee shall monitor the number of pH excursions outside the range of 6 to 9 SU. The pH shall be measured using a monitor with a 15-minute digital readout, with a continuous strip-chart recorder operated as a back-up.
5. The permittee shall analyze for total cyanide by the total cyanide distillation method described in Part 4500-CN C. of Standard Methods for the Examination of Water and Wastewater, 18th edition, followed by the colorimetric method described in Part 4500-CN E.
6. Chronic toxic units (see definition). See Section III.B. for specific toxicity testing requirements.

B. Effluent Toxicity Testing Requirements. The permittee shall perform chronic toxicity tests on samples representative of the effluent discharged from outfall 002.

1. Test Species and Methods. The permittee shall conduct semi-annual toxicity tests on 24-hour composite effluent samples. The permittee shall conduct tests with two invertebrate species, including:

   Mytilis spp. (mussel) or *Crassostrea gigas* (oyster) - larval development test; and,

   Strongylocentrotus purpuratus (urchin) or *Dendraster excentricus* (sand dollar) - fertilization test.

2. Definition of Toxicity.

   a. Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. For the purposes of this permit, the chronic toxicity trigger is defined as a toxicity greater than 170 TU_C.

   b. Test results shall be reported in chronic toxic units (see definitions). In addition to reporting TU_C, the Permittee shall report the NOEC and the IC_{25} (see definitions) of the effluent.

3. Quality Assurance. The toxicity tests shall meet the following quality assurance requirements:

   a. A series of five dilutions and a control shall be tested. The series shall include the instream waste concentration (IWC), two dilutions above the IWC, and two dilutions below the IWC. The IWC is the concentration of effluent at the edge of the mixing zone. The State approved mixing zone represents a 170:1 dilution which corresponds to an IWC of 0.59%.

   b. Where organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity test.

   c. All test methods and quality assurance criteria used shall be in accordance with Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/600/R-95-136.

   d. The permittee shall conduct testing on 24-hour composite samples of effluent. Each sample collected shall be large enough to provide enough effluent to conduct the toxicity tests, as well as chemical tests required below.

   e. The permittee shall conduct chronic testing on split samples of effluent to the extent possible. A split of each sample collected shall be analyzed for the monitoring parameters required for outfall 002 in Part III.A., above. When the timing of sample collection coincides with that of the sampling required in Part III.A., analysis of the split sample will fulfill the requirements of Part III.A. as well.

   f. Control and dilution water should be lab water, as defined for each test method. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.

   g. If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, then the permittee must re-sample and re-test as soon as possible.

4. Preparation of Initial Investigation Workplan. The permittee shall submit to EPA a copy of the permittee's Initial Investigation Workplan [1-2 pages] within 90 days of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum:

a. A description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity, effluent variability, treatment system efficiency;

b. A description of the facility's method of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in operation of the facility (i.e., chemicals that may be reported to the effluent due to ongoing use, overuse, or spillage);

c. If a Toxicity Reduction Evaluation (TRE) is necessary, who will conduct it (i.e., in-house or other)

5. Reporting

a. The permittee shall submit the results of the toxicity tests in a toxicity test report, including any accelerated testing conducted during the month, with the discharge monitoring report (DMR) for the second month following sample collection. If the Initial Investigation is used to determine that completion of accelerated testing is unnecessary, then those results shall also be submitted with the DMR for the second month following the Initial Investigation.

b. The toxicity test report shall consist of: (1) the toxicity test results; (2) the dates of sample collection and initiation of each toxicity test; (3) the flow rate at the time of sample collection; and (4) the results of the effluent analyses for chemical/physical parameters.

c. Test results for chronic tests shall be reported according to the chronic manual chapter on Report Preparation, and shall be attached to the DMR. Where the lab uses the TOXIS database, the results shall also be submitted on electronic disk (3.5").

d. Evaluation results--the permittee shall report to EPA and ADEC, in writing within fifteen (15) days of receipt of results showing an exceedance of the chronic toxicity trigger (170 TU_C), the following:

(1) The finding of the Initial Investigation or other investigation to identify the cause(s) of toxicity;

(2) Actions the permittee has taken or will take to mitigate the impact of the discharge, to correct the noncompliance and to prevent the recurrence of toxicity;

(3) Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented; and

(4) If no actions have been taken, the reason for not taking action.

6. Accelerated Testing:

a. If chronic toxicity is greater than 170 TU_C in any test, then the permittee shall conduct six more tests, bi-weekly (every two weeks), over a twelve-week period. Testing shall commence within two weeks of receipt of the sample results of the exceedence.

b. If implementation of the Initial Investigation Workplan indicates the source of toxicity (for instance, a temporary plant upset), then only one additional test is necessary. If toxicity is detected in this test, then Part 6a. shall apply.

c. If chronic toxicity greater than 170 TU_C is detected in any of the six additional tests, then, in accordance with the permittee's Initial Investigation Workplan and, at a minimum, EPA manual EPA/600/2-88/070, the permittee shall initiate a TRE in accordance with Part 7 of this section within fifteen (15) days of receipt of the sample results of the exceedance.

d. If none of the six tests indicates toxicity, then the permittee may return to the normal testing frequency.

7. Toxicity Reduction Evaluation (TRE)

a. If chronic toxicity is detected during accelerated testing under Part 6.a., the permittee shall conduct a TRE in accordance with the Initial Investigation Workplan and EPA manual EPA/600/2-88/070 (Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)).

b. If a TRE is triggered prior to completion of the accelerated testing under Part 6, the accelerated testing schedule may be terminated, or used as necessary in performing the TRE.

c. Any Toxicity Identification Evaluation (TIE) work performed as part of the TRE shall be in accordance with EPA manuals EPA/600/6-91/005F (Phase I), EPA 600/R-92/080 (Phase II), and EPA/600/R-92/081 (Phase III).

8. Reopener. This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to

address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

C. Receiving Water Monitoring Program. The permittee shall conduct a Water Quality Monitoring program in the vicinity of the mine discharges according to the following:

1. Water Column Monitoring

a. The permittee shall collect samples once per quarter at existing stations 106, 107, and 108 (sampling locations are shown in the attached figure). The date, time, and weather conditions shall be noted and reported for each sample collected.

b. Samples shall be analyzed for the parameters listed in Table 5 to achieve method detection limits (MDLs) that are equivalent to or less than those listed in Table 5. The permittee may request different MDLs. Such a request must be in writing and must be approved by EPA.

c. All monitoring results shall be included in a summary report that clearly provides the sample location, date, and analytical results. The summary report shall be submitted within 90 days following sample collection. The permittee shall provide relevant quality assurance/quality control data in each report.

Table 5: Quarterly Receiving Water Monitoring Parameters and MDLs

Parameter	units	Water Method Detection Limit (MDL)
Cadmium [1]	µg/l	0.1
Copper [1]	µg/l	0.03
Lead [1]	µg/l	0.08
Mercury [2]	µg/l	0.2
Zinc [1]	µg/l	0.2
TSS	mg/l	--
pH	SU	--
Total Cyanide [3]	µg/l	5
Temperature	°C	--
Conductivity	µmhos	--
Turbidity	NTU	--

NOTES for Table 5:
1. The permittee shall conduct analyses for total recoverable metals.
2. Mercury shall be analyzed as total.
3. For additional monitoring requirements for cyanide, see Table 4, footnote 5.

2. Sediment Monitoring

a. The permittee shall conduct sediment monitoring twice per year at existing stations S-1, S-2, S-4, and S-5 (sampling locations are shown in the attached figure). The date, time, and weather conditions shall be noted and reported for each sample collected.

b. The permittee shall collect sufficient sediment from each sediment monitoring station to conduct all chemical tests identified herein.

c. The samples will be analyzed for the parameters in Table 6, using the listed analytical protocols (or equivalent) for each sediment sample.

d. All monitoring results shall be included in a summary report that clearly provides the sample location, date, and analytical results. The summary report shall be submitted along with the DMR for the second month following sample collection. The permittee shall provide relevant quality assurance/quality control data in each report.

Table 6: Semi-Annual Sediment Monitoring Parameters and Methods

Parameter	Preparation Method	Analysis Method	Sediment MDL [1] (mg/kg)
Cadmium	PSEP [2]	GFAA [3]	0.3
Copper	PSEP [2]	ICP [4]	15.0
Lead	PSEP [2]	ICP [4]	0.5
Mercury	7471 [5]	7471 [5]	0.02
Zinc	PSEP [2]	ICP [4]	15.0

NOTES for Table 6:

1. Dry weight basis.
2. Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound, Puget Sound Estuary Program, EPA 910/9-86-157, as updated by Washington Department of Ecology; Subsection: Metals in Puget Sound Water, Sediment, and Tissue Samples, Puget Sound Estuary Program.
3. Graphite Furnace Atomic Absorption (GFAA) Spectrometry - SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods, EPA 1986.
4. Inductively Coupled Plasma (ICP) Emission Spectrometry - SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods, EPA 1986.
5. Mercury Digestion and Cold Vapor Atomic Absorption (CVAA) Spectrometry - Method 747I, SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods, EPA 1986.

3. In-Situ Bioassays

a. The permittee shall perform semi-annual testing of tissues from the organisms listed in Table 7, at the locations listed in Table 7 (sampling locations are shown in the attached figure). The date, time, and weather conditions shall be noted and reported for each sample collected.

b. The tissue samples will be prepared following EPA Method 200.2, where 0.3 grams of dry tissue and 5 ml. of nitric acid are heated to 85 ^{o}C for four hours, cooled, and diluted to a volume of 22 ml. Levels of the elements shall be determined by inductively-coupled plasma mass spectrometer (ICP-MS).

c. All monitoring results shall be included in a summary report that clearly provides the sample location, date, and analytical results. The summary report shall be submitted along with the DMR for the second month following sample collection. The permittee shall provide relevant quality assurance/quality control data in each report.

Table 7: Semi-Annual In-Situ Bioassay Monitoring Requirements

Sample Location	In-Situ Test Organism [1]	Parameters (total in mg/kg)
S-1 S-2 S-4 S-5	Nepthys procera (polychaete), and Nereis sp. (polychaete) [2]	Cadmium Copper Lead Mercury Zinc
Stn 1 Stn 2 Stn 3 ESL	Mytilus edulus (bay mussel)	

NOTES for Table 7:
1. The organisms shall be collected from each of the four locations identified.
2. Nereis sp. may be replaced with other local species if Nereis sp. is not available.

4. Receiving Water Monitoring Program Reporting.

a. All water, sediment, and bioassay monitoring results shall be reported to a minimum of two significant figures.

b. In addition to submitting hard copies of monitoring results, the permittee shall submit electronic versions in a format agreeable to both the permittee and ADEC.

c. The permittee shall submit an annual report which summarizes the results of the receiving water monitoring program to EPA and ADEC by January 31 of the next year. The annual report shall include a statistical evaluation of the data showing averages, variations, and increases over time and a discussion of the results. The annual data summaries shall be submitted in both electronic and hard copy form.

D. Storm Water Monitoring Program. The permittee shall conduct a Storm Water Monitoring program according to the following:

1. The permittee shall collect samples twice per year at the locations listed in Table 8. The samples will be collected once with the first spring storm or snow-melt event and once during the fall peak rainfall. In the event of a “dry” fall with low storm water flows, no sample will be required until the next spring. The date, time, and weather conditions shall be noted and reported for each sample collected. Storm water flow for each location shall be approximated at the time of sample collection.

2. The samples shall be analyzed for the parameters listed in Table 8.

3. All monitoring results shall be reported to a minimum of two significant figures.

4. All monitoring results shall be included in a summary report that clearly provides the sample location, date, flow, and analytical results. The summary report shall be submitted along with the BMP annual report required under Part II.E.3.

5. The permittee shall provide relevant quality assurance/quality control data in each report.

Table 8: Storm Water Monitoring Requirements

Site Number	Location of Sampling Site[1]	Parameters[2]
003	southern part of Hawk Inlet facilities area near the "cannery" buildings	oil & grease lead, zinc, TSS, pH
004	Pit 7: active rock quarry off of A-road at mile 1.8 (site 520SW)	oil & grease lead, zinc, TSS, pH
005	Greens Creek Mine Road System: A-road form Hawk Inlet to Young Bay (5 mi.) & B-road from Hawk Inlet to 1350 mine portal (13 mi.)	per 005 sub-sites below
005.1	Pit 5: active rock quarry and loading/unloading area off of B-road at mile 0.8 (site 530SW)	oil & grease lead, zinc, TSS, pH
005.2	Zinc Creek Bridge (west side) off of B-road at mile 3.0 (site 539SW)	oil & grease lead, zinc, TSS, pH
005.3	Site E: inactive waste rock storage area off of B-road at mile 4.5	oil & grease lead, zinc, TSS, pH
005.4	Pit 6: inactive rock quarry and top soil storage off of B-road at mile 4.6 (site 547SW)	oil & grease lead, zinc, TSS, pH
005.5	Culvert at B-road mile 7.8	oil & grease lead, zinc, TSS, pH
006	Pond D: sediment pond from inactive waste rock storage area D off of B-road at mile 8.0	lead, zinc, TSS, pH
007	Pond C: sediment pond from inactive waste rock storage area C off of B-road at mile 8.2	lead, zinc, TSS, pH
008	980 Laydown site for initial portal development rock	lead, zinc, TSS, pH
009	Site 1350 adit inactive waste rock storage area	lead, zinc, TSS, pH

NOTES for Table 8:
1. Storm Water Pollution Prevention Plan site numbers, where applicable, are in parenthesis following location description.
2. Lead and zinc shall be analyzed as total recoverable.

E. Quality Assurance Project Plan (QAPP). The permittee shall revise the existing Quality Assurance Project Plan (QAPP) to include all monitoring under this permit. The QAPP

shall be submitted to EPA for review and approval and to ADEC for review within sixty days of the effective date of this permit.

1. The QAPP shall be designed to assist in planning for the collection and analysis of environmental samples in support of the permit and in explaining data anomalies when they occur.

2. Throughout all sample collection and analysis activities, the permittee shall use the EPA-approved quality assurance, quality control, and chain-of-custody procedures described in Requirements for Quality Assurance Project Plans (EPA QA/R-5) and Guidance for Quality Assurance Project Plans (EPA QA/G-5). The QAPP shall be prepared in the format which is specified in these documents. The QAPP shall also be consistent with the guidance in You and Quality Assurance in Region 10 (EPA, Regional 10, Quality and Data Management Program, March 1988).

3. The QAPP shall include the following:

    a. Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical detection and quantitation limits (or method detection level and minimum level) for each target compound, analytical methods, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.

    b. A map indicating the location of each monitoring location.

    c. Qualification and training of personnel.

    d. Specifications for the collection and analysis of quality assurance samples for each sampling event, such as (1) matrix spiked (MS) and duplicate samples on ten percent of samples; and (2) analysis of Field Transfer Blanks (sample blanks) to identify contamination of samples.

    e. Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittee.

    f. A description of the contents of the annual monitoring summary reports, e.g., a description of how the data will be evaluated and the statistical analyses that will be performed (see III.C.4.c.).

4. The permittee shall amend the QAPP, whenever there is a modification in the sample collection, the sample analysis, or whenever conditions or requirements of the QAPP change.

5. Copies of QAPP shall be kept on site and shall be made available to EPA and/or ADEC upon request.

6. The permittee shall require the laboratory director of each laboratory providing measurement results in support of this permit to sign and submit to EPA the following statement on a monthly basis with the DMR:

I certify that this data is in compliance with requirements under 40 CFR 136 and other analytical requirements specified in NPDES Permit No. AK-004320-6.

Signature: _____ *Date:* _____

F. Other Requirements. An annual video and written report of the condition of the diffuser and diffuser ports at outfall 002 shall be provided to ADEC within 30 days of the annual inspection.

G. Representative Sampling (Routine and Non-Routine Discharges). The permittee shall collect all effluent samples from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee shall collect additional samples at the appropriate outfall(s) whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee shall analyze the additional samples for effluent limited parameters (Part I.) that are likely to be affected by the discharge.

The permittee shall collect such additional samples as soon as possible after the spill or discharge. The samples shall be analyzed in accordance with paragraph I., below. In the event of an unanticipated bypass, as defined in Part IV. of this permit, the permittee shall collect and analyze additional samples as soon as the bypassed effluent reaches the outfall. The permittee shall report all additional monitoring in accordance with paragraph J., below.

H. Reporting of Monitoring Results. The permittee shall summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The

permittee shall submit DMRs monthly, postmarked by the 10th day of the following month. The permittee shall sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The permittee shall submit the legible originals of these documents to the Director, Office of Water, with copies to ADEC at the following addresses:

United States Environmental Protection Agency (EPA), Region 10
1200 Sixth Avenue, OW-133
Seattle, Washington 98101

Alaska Department of Environmental Conservation (ADEC), Southeast Region
Division of Air and Water Quality
410 Willoughby Avenue
Juneau, Alaska 99801

In addition to submitting hard copies, the permittee shall also submit electronic versions of the DMRs to ADEC in a format agreeable to both the permittee and ADEC.

I. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit. Test procedures selected must have detection limits such that compliance with the permit limitations can be demonstrated.

J. Additional Monitoring by Permittee. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee shall include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. The permittee shall indicate on the DMR whenever it has performed additional monitoring, and shall explain why it performed such monitoring.

Upon request by the Director, the permittee shall submit results of any other sampling, regardless of the test method used.

K. Records Contents. All effluent monitoring records shall bear the hand-written signature of the person who prepared them. In addition, all records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;

2. the names of the individual(s) who performed the sampling or measurements;

3. the date(s) analyses were performed;

4. the names of the individual(s) who performed the analyses;

5. the analytical techniques or methods used; and

6. the results of such analyses.

L. Retention of Records. The permittee shall retain records of all monitoring information, including, but not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the Director or ADEC at any time.

M. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall report the following occurrences of noncompliance by telephone (see M.3., below) within 24 hours from the time the permittee becomes aware of the circumstances:

   a. any noncompliance that may endanger health or the environment;

   b. any unanticipated bypass that results in or contributes to an exceedence of any effluent limitation in the permit (See Part IV.G., "Bypass of Treatment Facilities");

   c. any upset that results in or contributes to an exceedence of any effluent limitation in the permit (See Part IV.H., "Upset Conditions"); or

   d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.

2. The permittee shall also provide a written submission within five days of the time that the permittee becomes aware of any event required to be reported under subpart 1 above. The written submission shall contain:

   a. a description of the noncompliance and its cause;

   b. the period of noncompliance, including exact dates and times;

c. the estimated time noncompliance is expected to continue if it has not been corrected;

d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

e. the results of any monitoring data required under Paragraph III.G., above.

3. The Director may, at his sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Compliance Section in Seattle, Washington, by telephone, (206) 553-1846.

4. Reports shall be submitted to the addresses in Part III.H. ("Reporting of Monitoring Results").

N. Other Noncompliance Reporting. The permittee shall report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.H. are submitted. The reports shall contain the information listed in Part III.M.2. of this permit.

O. Changes in Discharge of Toxic Substances. The permittee shall notify the Director and ADEC as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":

a. One hundred micrograms per liter (100 ug/l);

b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

d. The level established by the Director in accordance with 40 CFR 122.44(f).

2. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in the

permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":

a. Five hundred micrograms per liter (500 ug/l);

b. One milligram per liter (1 mg/l) for antimony;

c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

d. The level established by the Director in accordance with 40 CFR 122.44(f).

IV. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. The permittee shall give reasonable advance notice to the Director and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions.

1. Civil and Administrative Penalties. Sections 309(d) and 309(g) of the Act provide that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil or administrative penalty, not to exceed $25,000 per day for each violation.

2. Criminal Penalties:

   a. Negligent Violations. Section 309(c)(1) of the Act provides that any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or by both.

   b. Knowing Violations. Section 309(c)(2) of the Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or by both.

c. Knowing Endangerment. Section 309(c)(3) of the Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. A person that is an organization shall be subject to a fine of not more than $1,000,000.

d. False Statements. Section 309(c)(4) of the Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both.

Except as provided in permit conditions in Part IV.G., ("Bypass of Treatment Facilities") and Part IV.H., ("Upset Conditions"), nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, except as specifically authorized in Part I.A.

G. Bypass of Treatment Facilities.

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part III.M. ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

   a. Bypass is prohibited, and the Director or ADEC may take enforcement action against the permittee for a bypass, unless:

      (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

      (3) The permittee submitted notices as required under paragraph 2 of this Part.

   b. The Director and ADEC may approve an anticipated bypass, after considering its adverse effects, if the Director and ADEC determine that it will meet the three conditions listed above in paragraph 3.a. of this Part.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations

if the permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under Part III.M., Twenty-four Hour Notice of Noncompliance Reporting; and

   d. The permittee complied with any remedial measures required under Part IV.D., Duty to Mitigate.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Planned Changes. The permittee shall give notice to the Director and ADEC as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part III.O. The permittee shall give notice to the Director and ADEC as soon as possible of any planned changes in process or chemical use whenever such change could significantly change the nature or increase the quantity of pollutants discharged.

K. Anticipated Noncompliance. The permittee shall also give advance notice to the Director and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

V. GENERAL PROVISIONS

A. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply. If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

C. Duty to Provide Information. The permittee shall furnish to the Director and ADEC, within the time specified in the request, any information that the Director or ADEC may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director or ADEC, upon request, copies of records required to be kept by this permit.

D. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director or ADEC, it shall promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director and ADEC shall be signed and certified.

1. All permit applications shall be signed as follows:

    a. For a corporation: by a responsible corporate officer.

    b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

    c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director or ADEC shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Director and ADEC, and

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

3. Changes to authorization. If an authorization under Part V.E.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph V.E.2. must be submitted to the Regional Administrator and ADEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Part shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance with this permit shall be available for public inspection at the offices of the state water pollution control agency (ADEC) and the Director. As required by the Act, permit applications, permits and effluent data shall not be considered confidential.

G. Inspection and Entry. The permittee shall allow the Director, ADEC, or an authorized representative (including an authorized contractor acting as a representative of the

Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

I. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

J. Severability. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

K. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit.

If the notice described in paragraph 3 above is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

L. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

M. Reopener Clause.

1. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act, as amended, if the effluent standard, limitation, or requirement so issued or approved:

    a. Contains different conditions or is otherwise more stringent than any condition in the permit; or

    b. Controls any pollutant or disposal method not addressed in the permit.

    The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

2. This permit may be reopened to adjust any effluent limitations if future water quality studies, waste load allocation determinations, or changes in water quality standards warrant the establishment of different requirements.

VI. DEFINITIONS

1. "ADEC" means the Alaska Department of Environmental Conservation.

2. "Administrator" means the Administrator of the USEPA, or an authorized representative.

3. "Average monthly limit"means the average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. For fecal coliform bacteria, the monthly average is calculated as the geometric mean of all daily discharges measured during a calendar month.

4. "Average weekly limit" means the average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

5. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

6. "Chronic toxic unit (TU_c)" is a measure of chronic toxicity. The number of chronic toxic units in the effluent is calculated as 100/NOEC, where the NOEC is measured in percent effluent.

7. "Contact storm water runoff" is water that comes into contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product.

8. "Daily discharge" means the discharge of a pollutant during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in concentration, rates, or other units, the daily discharge is the average measurement of the pollutant over the day.

9. "Director" means the Director of Water Division, USEPA, or an authorized representative.

10. "DMR" means discharge monitoring report.

11. "EPA" means the United States Environmental Protection Agency.

12. "Final effluent" means effluent at, or upstream from, the point where a permitted outfall enters navigable waters, and through which all waste streams pass that are discharged from the outfall.

13. "Grab" sample is a single sample or measurement taken at a specific time or over as short a period of time as is feasible.

14. "IC_{25}" means the estimated toxicant concentration that would cause a 25 percent reduction in a nonlethal biological measurement of the test organisms, such as reproduction or growth.

15. "Interim Minimum Level" is used when a method-specified Minimum Level (ML) does not exist. The Interim Minimum Level is equal to 3.18 times the method-

specified Method Detection Level (MDL), rounded to the nearest 1, 2, 5, 10, 20, 50, etc.

16. "LC_{50}" means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.

17. "Maximum daily discharge limitation" or daily maximum means the highest allowable daily discharge.

18. "Method Detection Limit (MDL)" means the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero as determined by a specific laboratory method.

19. "Minimum level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

20. "NOEC" means no observable effect concentration. The NOEC is the highest tested concentration of an effluent at which no adverse effects are observed on the test organisms at a specific time of observation.

21. "QA/QC" means quality assurance/quality control.

22. "Regional Administrator" means the EPA Region 10 Regional Administrator, or an authorized representative.

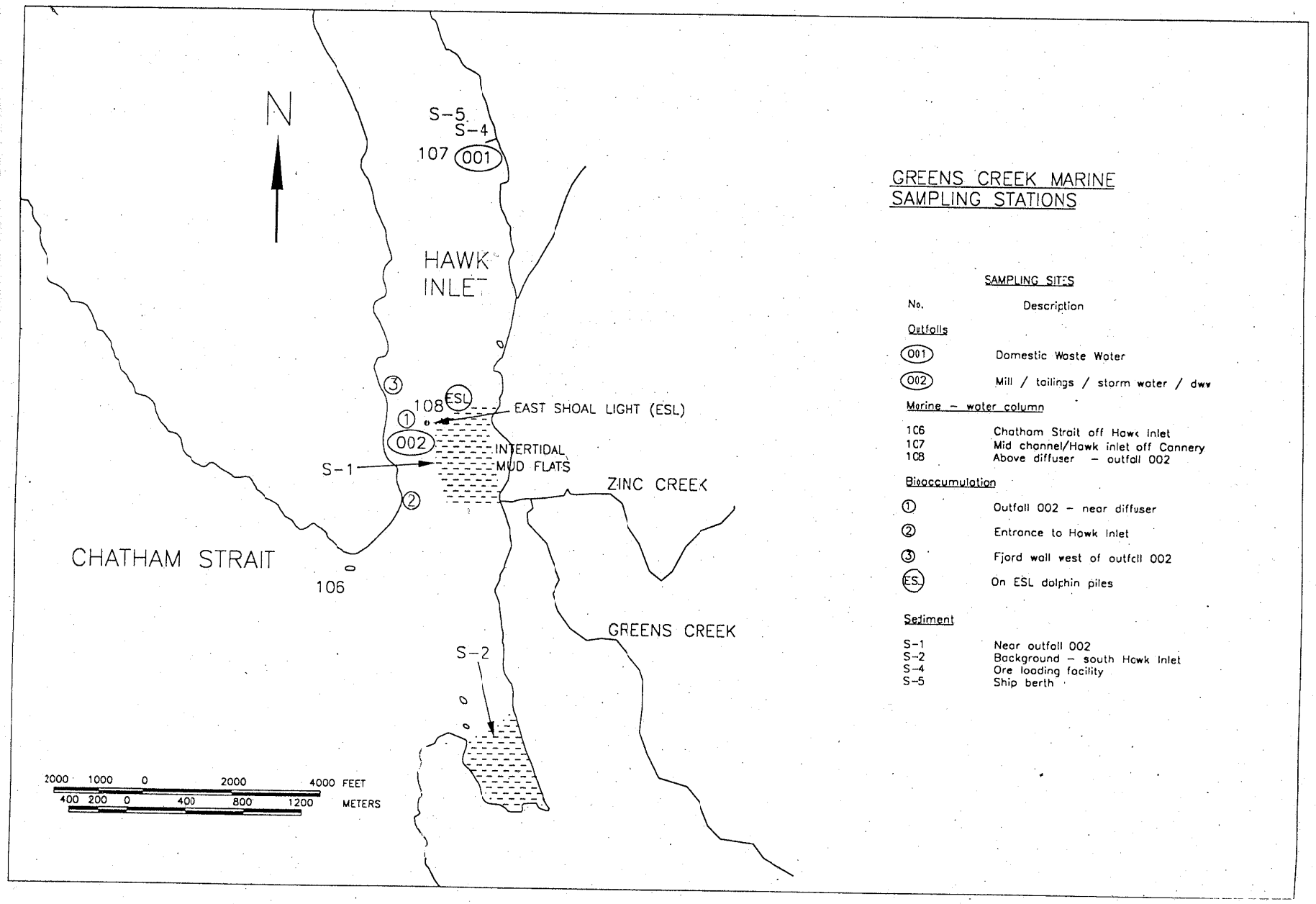
23. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

24. "24-hour composite" sample shall mean a flow-proportioned mixture of not less than 8 discrete aliquots. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

25. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations

because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

26. “Waste stream” means any non-de minimus stream of pollutants within the Permittee's facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.



GREENS CREEK MARINE SAMPLING STATIONS

SAMPLING SITES

No.	Description
Outfalls	
001	Domestic Waste Water
002	Mill / tailings / storm water / dww
Marine – water column	
1C6	Chatham Strait off Hawk Inlet
1C7	Mid channel/Hawk inlet off Cannery
1C8	Above diffuser – outfall 002
Bioaccumulation	
1	Outfall 002 – near diffuser
2	Entrance to Hawk Inlet
3	Fjord wall west of outfall 002
ESL	On ESL dolphin piles
Sediment	
S-1	Near outfall 002
S-2	Background – south Hawk Inlet
S-4	Ore loading facility
S-5	Ship berth